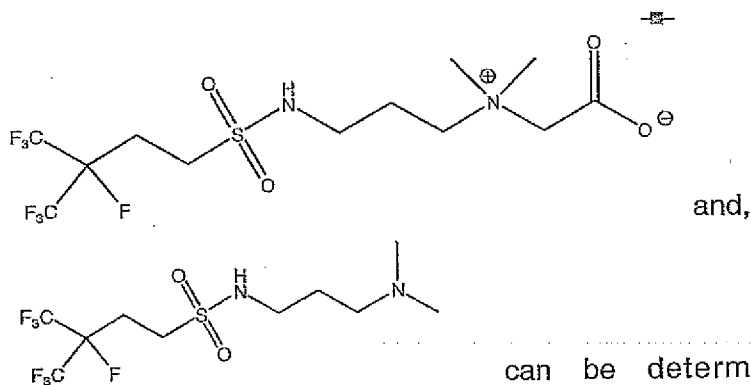


and the filtrate evaporated to dryness to provide the aminoxide of the  $R_F$ -surfactant.

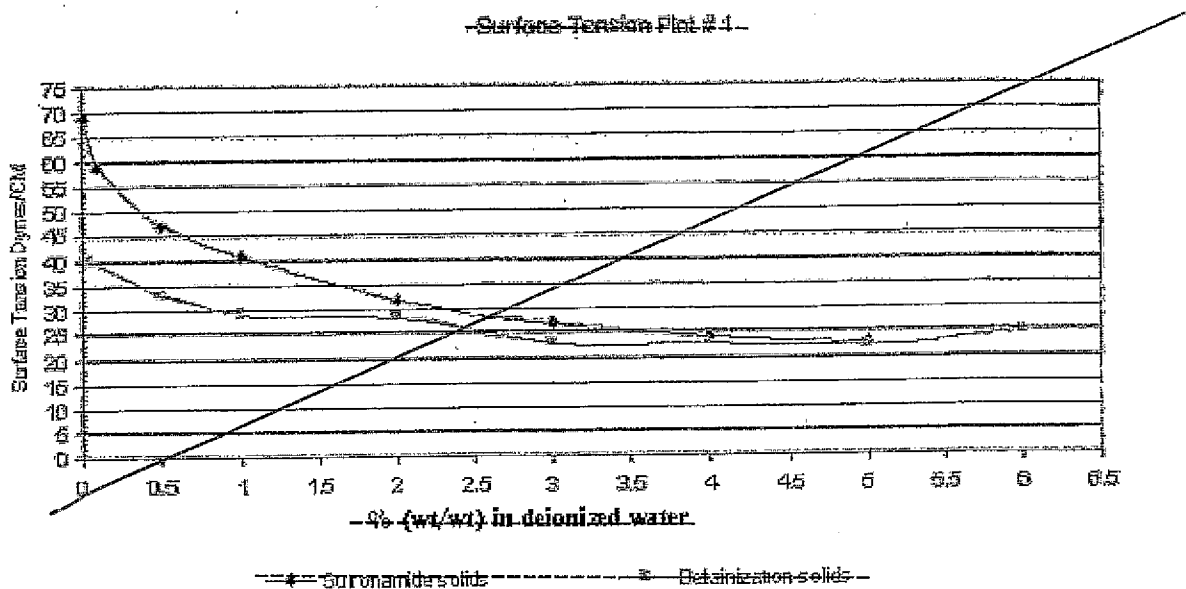
In accordance with another embodiment of the disclosure, processes are provided that can be used to alter the surface tension of a part of a system having at least two parts. The system can include liquid/solid systems, liquid/gas systems, gas/solid systems, and/or liquid/liquid systems. In an exemplary embodiment, the liquid/liquid systems can have one part that includes water and another part that includes a liquid that is relatively hydrophobic when compared to water. According to another example, the liquid/liquid system can contain one part that is relatively hydrophobic when compared to water and/or relatively hydrophobic when compared to another part of the system.  $R_F$ -surfactants can be used to alter the surface tension of a part of the system, for example, by adding the  $R_F$ -surfactant to the system.

$R_F$ -surfactants may be used as relatively pure solutions or as mixtures with other components. For example, and by way of example only, the  $R_F$ -surfactants can be added to a system and the surface tension of the system determined by the Wilhelmy plate method and/or using the Kruss Tensiometer method.

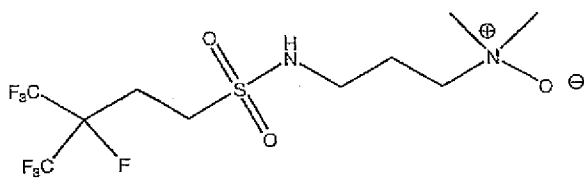
The surface tensions of solutions of



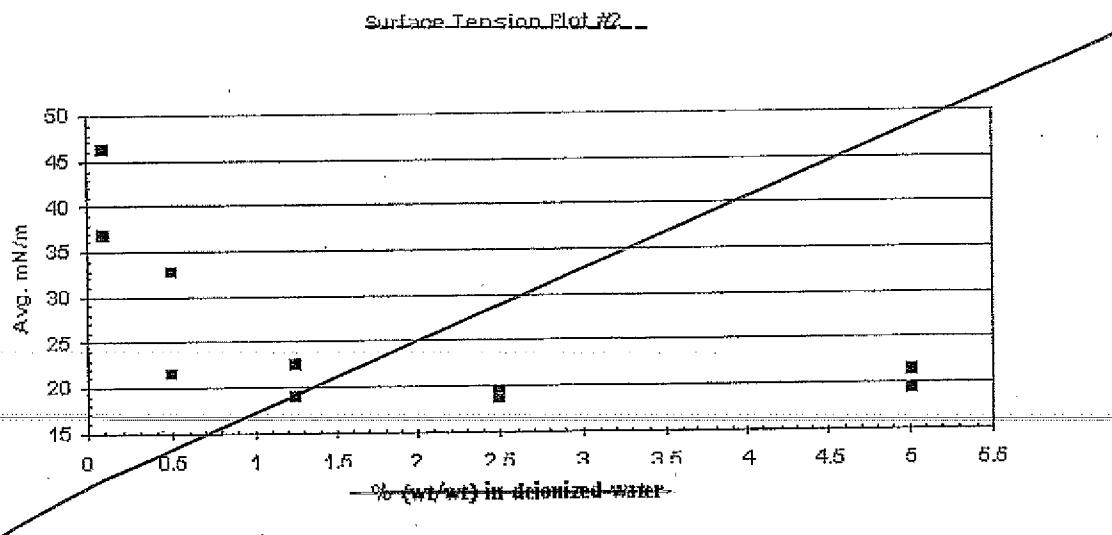
can be determined, according to the concentrations in Plot #1 below, as shown in Fig. 9.



As another example, the surface tensions of

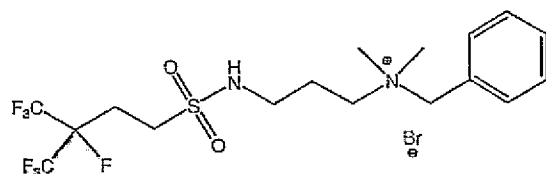


at pH 7<sup>+</sup> and pH 5<sup>+</sup> various concentrations can be determined and the data as indicated in Plot #2 below- as shown in Fig.10.

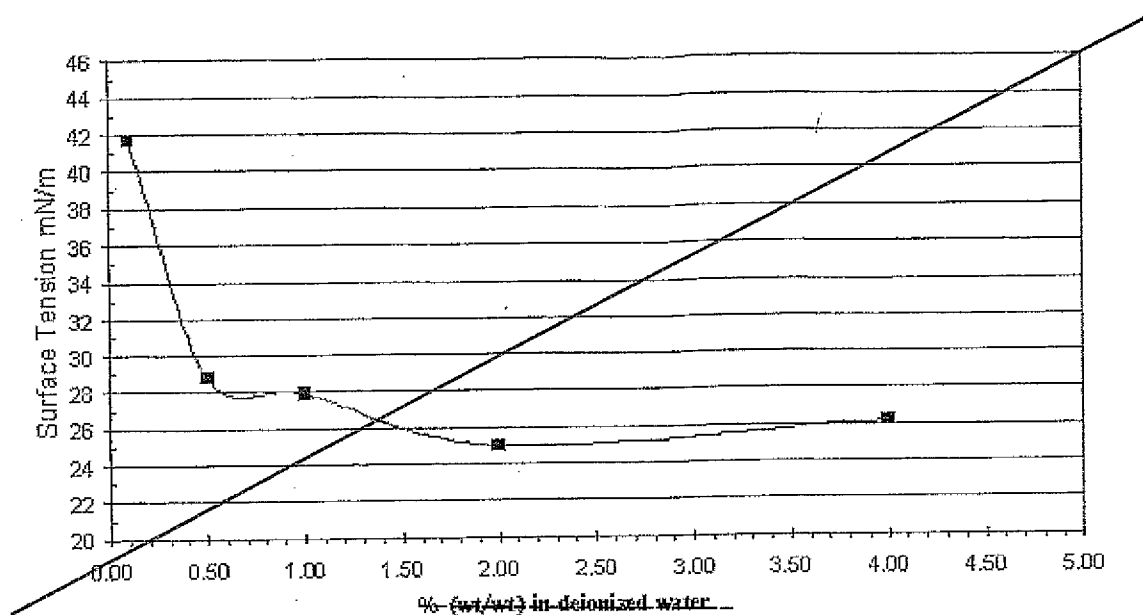


5

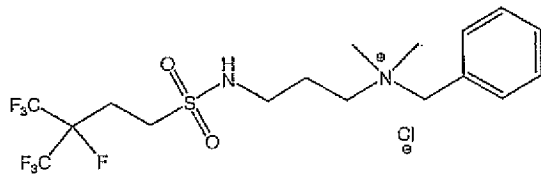
As another example, the surface tensions of



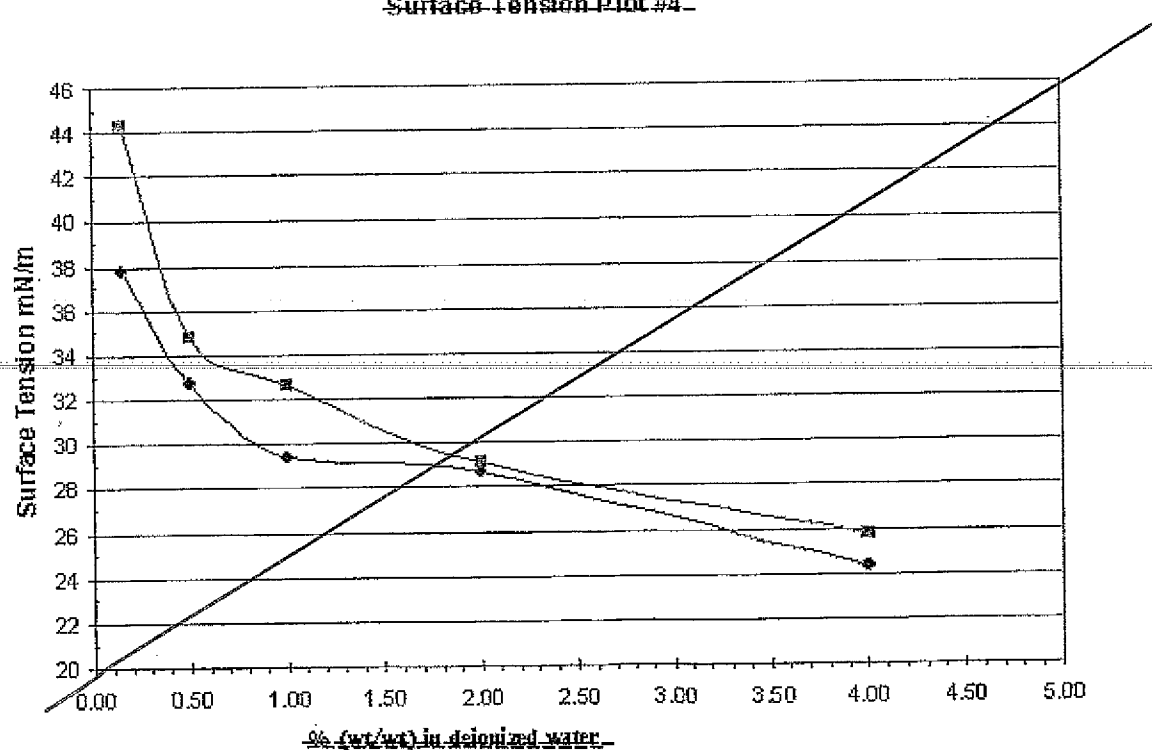
at various concentrations can be determined and the data as indicated in the Plot #3 below- as shown in Fig.11.

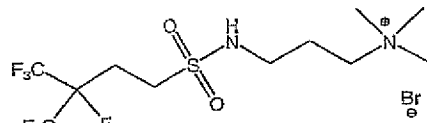
~~Surface Tension Plot #3~~

As another example, the surface tensions of



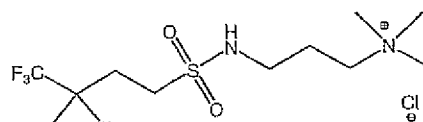
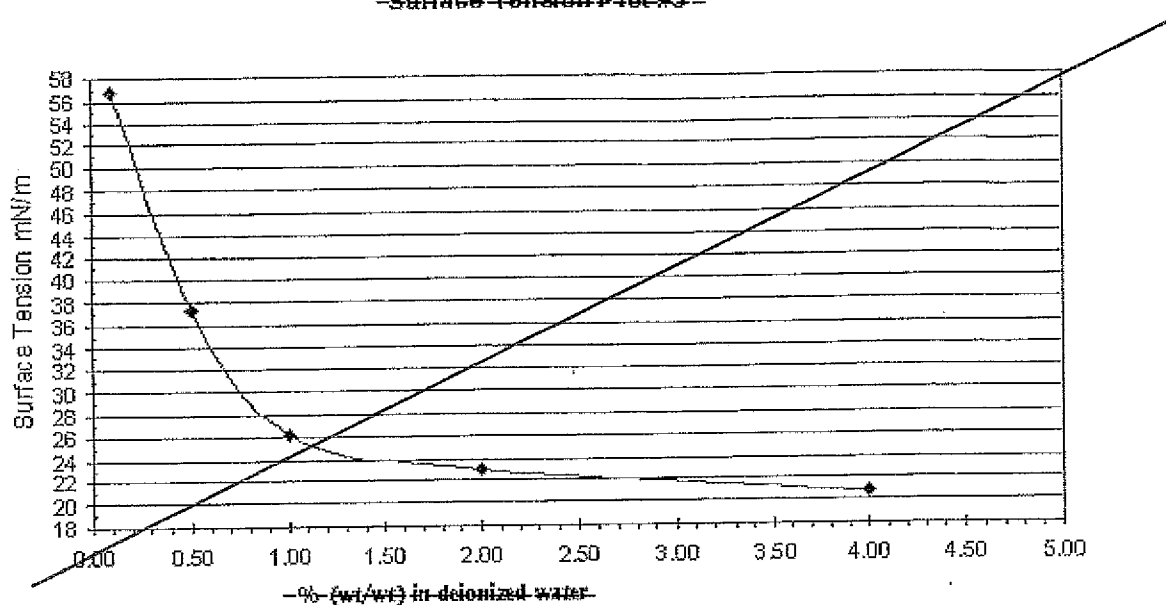
at pH 6.8  $\blacklozenge$  and pH 4.0  $\blacksquare$  can be determined and the data as indicated in Plot #4 below—as shown in Fig. 12.

~~Surface Tension Plot #4~~



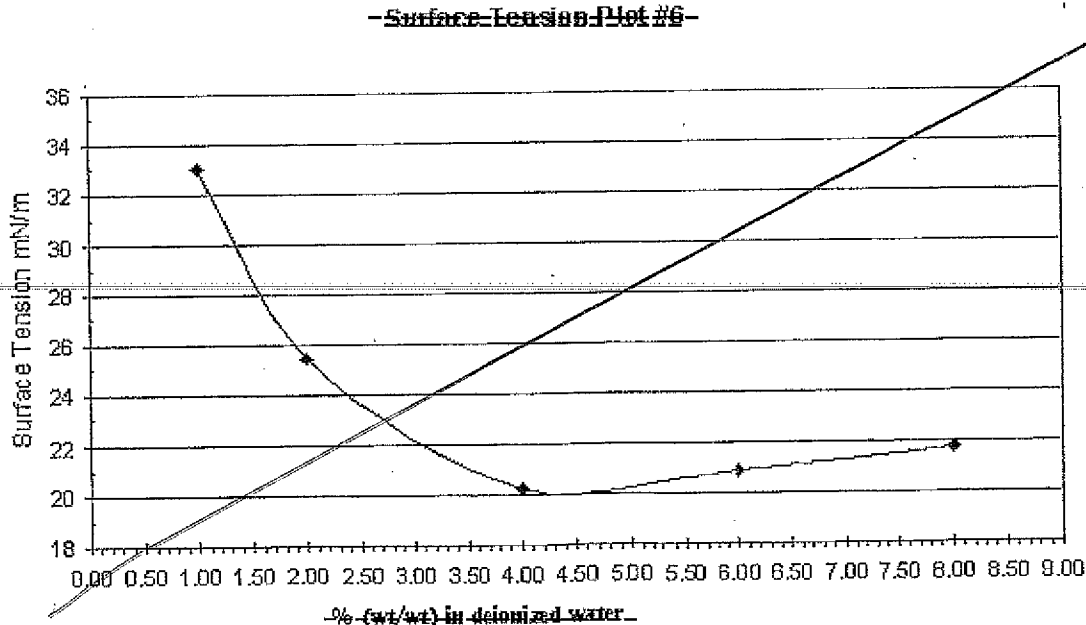
As another example, the surface tensions of FC(F)(F)CCS(=O)(=O)NCC[N+](C)(C)Br at various concentrations can be determined and the data as indicated in Plot #5 below, as shown in Fig. 13.

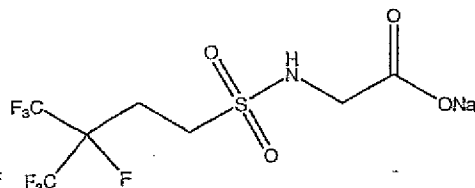
~~Surface Tension Plot #5~~



5 As another example, the surface tensions of FC(F)(F)CCS(=O)(=O)NCC[N+](C)(C)[Cl-] at various concentrations can be determined and the data as indicated in Plot #6 below, as shown in Fig. 14.

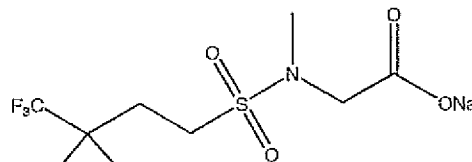
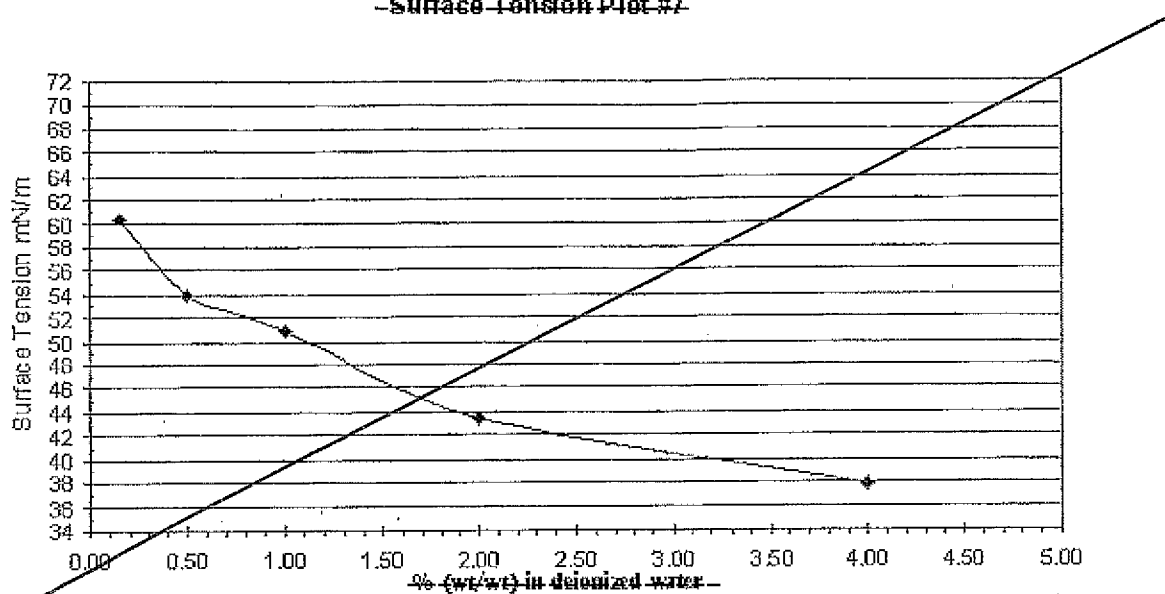
~~Surface Tension Plot #6~~



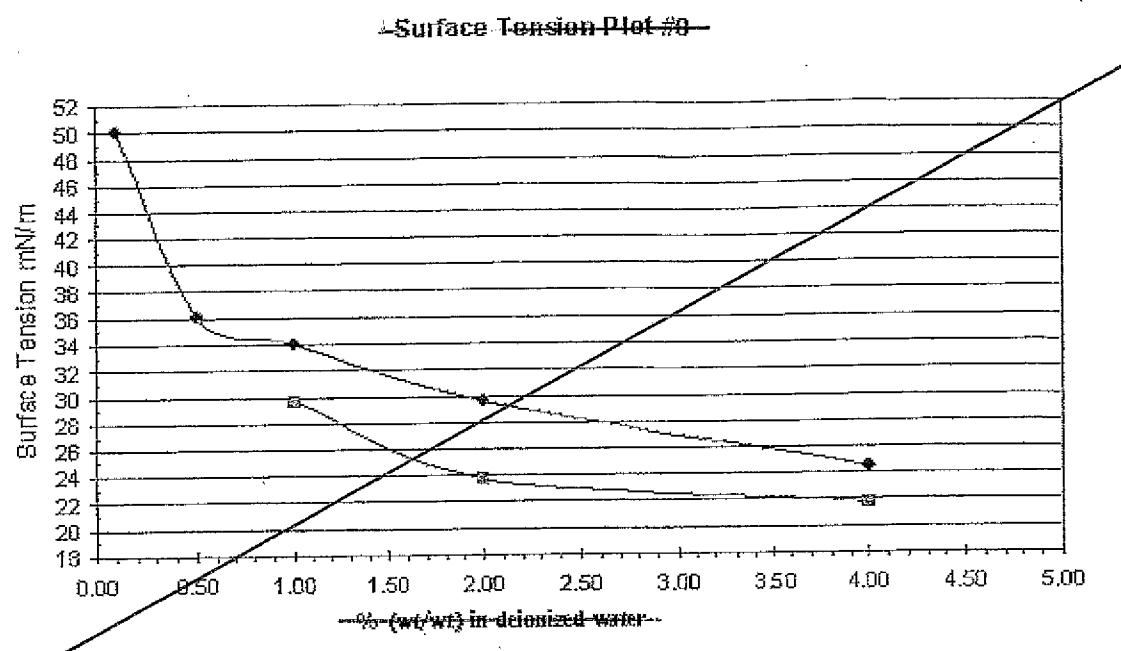


As another example, the surface tensions of FC(F)(F)CCCS(=O)(=O)NCC(=O)[O-][Na+] at various concentrations can be determined and the data as indicated in Plot #7 below, as shown in Fig. 15.

**-Surface Tension Plot #7-**



As another example, the surface tensions of CC(C)CCCS(=O)(=O)NCC(=O)[O-][Na+] at pH 6.2-6.8 and pH 5.0 can be determined and the data as indicated in Plot #8 below, as shown in Fig. 16.



Surface tensions and corresponding concentrations of R<sub>F</sub>-surfactants are denoted in Table 6 below.